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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,942	12/11/2003	Rita L. Faunce	211552-00050	7274

27160 7590 03/10/2005

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CHICAGO, IL 60661-3693

EXAMINER
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LUK, LAWRENCE W

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/732,942

Applicant(s)

FAUNCE ET AL.

Examiner

Lawrence W. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotlow et al. (6,747,371) in view of Carrier et al. (5,937,622).

**Claim 1**

As to claim 1, Kotlow et al. disclose in figure 3, column 5, lines 18-27, the battery charge indicator comprising: a sensing circuit (CS) for sensing when the charging current to a battery is equal to a first predetermined value less than the value of the charging current when said battery is fully charged (see column 5, lines 21-23) and generating a first charge indication signal, as a function of said charging current, representative of a near full state of charge.

Kotlow et al. does not disclose expressly an indicator responsive to said first charge indication signal for providing an indication when the state of charge of said battery is at a near full state of charge.

Carrier et al. discloses in figure 11 and 11a, column 10, lines 42-54, an indicator 102 responsive to said indication signal for providing an indication (102a-e) when the state of charge of said battery is at a near full state of charge.

Kotlow et al. and Carrier et al. are analogous art because they are from the area of battery charging electronic device including when said battery is at a near full state of charge.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include an indicator responsive to said indication signal for providing a indication when the state of charge of said battery is at a near full state of charge.

The suggestion/motivation for doing so would have been to indicate the charge level of the energy source to a user.

Therefore, it would have been obvious to combine Carrier et al. with Kotlow et al. for the benefit of providing a visual indication of the state-of-charge of a battery to a user as indicated in column 10, lines 42-50 of Carrier et al.

#### **Claim 2**

As to claim 2, Kotlow et al. in view of Carrier et al. are applied supra, and Carrier et al. further discloses in figure 11a, column 10, lines 42-48, said indicator (102) includes a first visual indication (102a).

#### **Claim 3**

As to claim 3, Kotlow et al. in view of Carrier et al. are applied supra, and Carrier et al. further discloses in figure 11a, column 10, lines 42-48, wherein said first visual indication is a first light emitting diode (102a, LED).

#### **Claim 4**

As to claim 4, Kotlow et al. in view of Carrier et al. are applied supra, and Carrier et al. further discloses in figure 12, said sensing circuit (124) is configured to sensing

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other charging states of said battery, other than said near full state of charge (in column 10, lines 19-31).

**Claim 5**

As to claim 5, Kotlow et al. in view of Carrier et al. are applied supra, and Kotlow et al. further discloses in figure 3, in the paragraph bridging column 4 and 5, said sensing circuit (CS) is configured to sense when the battery charging current is less than said first predetermined value and generating a second charge indication signal representing that said charging current is at a charge state other than said near fully charged state.

**Claims 6 and 8**

As to claims 6 and 8, Kotlow et al. in view of Carrier et al. are applied supra, and Carrier et al. further discloses in figure 11a, column 10, lines 6-10) wherein said second visual indication (102b) is a second LED.

**Claim 7**

As to claim 7, Kotlow et al. in view of Carrier et al. are applied supra, and Carrier et al. further discloses in figure 11a and 12, column 10, lines 42-54, said sensing circuit (124) is configured to generate one or more charge indicating signals (102a, 102b, 102c, 102d and 102e) selected from the group (102a-e) indicating that the state of charge of said battery is at a state of charge near full charge; at full charge or between said near charge state and said fully charged state.

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3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kotlow et al. (6,747,371) in view of Carrier et al. (5,937,622) as applied to claim 1-8 above, and further in view of Schousek et al. (6,222,370).

**Claim 9**

As to claim 9, Kotlow et al. in view of Carrier et al. discloses the elements as claim, except Kotlow et al. in view of Carrier et al. fails to teach the limitation of **“sensing circuit is configured to define first, second and third charging states and wherein said first LED is a red LED and said second LED is a green LED and in said first state, said red Led is illuminated and in said second state both said red and green LEDs are illuminated and in said third state, only said green LED is illuminated.”**

Schousek et al. disclose in column 6, lines 44-59, the display circuit shown consists of five LEDs, indicated as D6 (red), D3 (yellow 1), D2 (yellow 2), D4 (green 1), and D5 (green 2).

Kotlow et al., Carrier et al. and Schousek et al. are all analogous art because all three teachings are from the battery charging art. Furthermore, Schousek et al. addresses the same problem recognized by the applicants; that is, Schousek et al. recognizes the need to provide visual indication of different states of charge by the use of LED's.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to have used a red LED for the first LED, and a different color LED for

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remaining states, as taught by Schousek et al. regarding the recitation that green by used for the second state, the examiner indicates that Schousek et al. teaches using a green LED to indicate one of the states and the examiner has looked to applicants disclosure and there does not appear to be any criticality associated with which color LED is used to indicate what charging state is defined by the sensing circuit.

Therefore, it is the examiner's position that it would have been well within the level of skill in the art to use any of the different color LED's or a combination of LED's taught by Schousek et al. to indicate the different states defined by the sensing circuit; sensing, since such an indication would provide a quick and easily readable indication of the state of charge in the battery.

### ***Conclusion***

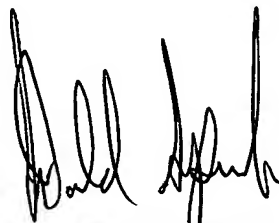
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence W Luk whose telephone number is (571) 272-2080. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding are (703) 746-7239, (571) 272-2100 for regular communication and (703) 746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to receptionist whose telephone number is (571) 272-2100.

LWL  
February 22, 2005

A handwritten signature in black ink, appearing to read 'Donald Sparks', is positioned above the printed name.

**DONALD SPARKS**  
**SUPERVISORY PATENT EXAMINER**